


REVISIONS

DWG NO. 44P0689

REV	EN	CHG CODE	DESCRIPTION		
E	31403	1	QTY F/N 35 WAS: 17, QTY F/N 36 WAS: 7, ASSY REV LTR WAS: C, LOGIC REV LTR WAS: B, F/N 1 REV LTR WAS: L		
F	31759	1	REV LTR OF F/N 31 WAS: J		
G	32730	1	ADDED FIND NO. 42, 4000560-000 WAS F, 4400689 WAS D, 9100459 WAS C		2/19/74
-	32966	1	REV. LTR OF F/N 1 WAS: G		3/13/74
H	33026	1	REV. LTR OF F/N 1 WAS: H		3/13/74
J	33164	1	REV. LTR OF REF DWG 4400689 WAS: E, 9100459 WAS: D F/N 1 WAS: J - QTY OF F/N 10 WAS: 6, F/N 11 WAS: 6, F/N 14 WAS: 4, F/N 15 WAS: 4		7/5/74
K	33213		REV. LTR. OF REF DWG 9100459 WAS: E, F/N 1 REV. LTR WAS: K		8/9/74
L	33335		REV. LTR. OF 4400689 WAS: K		8/13/74
M	33345		REV. LTR. OF 4400689 WAS: G, 9100459 WAS: F, F/N 1 WAS: L. F/N 36 QTY WAS: 3 ADDED C 27 TO REMARKS ADDED F/N 43	GRL	10/1/74
N	33346	1	REV LTR OF 4400689 WAS H. ADDED F/N 44	SJ	11/1/74
P	33611		LINED OUT F/N 43. F/N 40 - 003 WAS -.	SJ	5-11-75

NEXT ASSEMBLY OIP1563		MODEL NO. 620, V73	 varian data machines / a varian subsidiary 2722 michelson drive / irvine / california / 92644
DR	J. EOLL	2/11/73	
CHK	R. JORDON	5/31/73	TITLE PARTS LIST BUFFER INTERLACE CONTROL - DM402
IGN			
ENGR	T. HANSON	2/15/73	THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SUBJECT, WITHOUT PERMISSION FROM VDM.
APPD			
APPD			SIZE A DWG NO. 44P0689 REV P
			SHEET 1 OF 5

QUANTITY REQ'D PER DASH NO.								PARTS LIST			CODE IDENT: 21101	
				003	002	001	000	QTY	UNIT	PART NUMBER	DESCRIPTION	REMARKS
				REF	REF	REF	REF	-		4400689	ASSEMBLY	
				REF	REF	REF	REF	-		9100459	LOGIC DIAGRAM	
				REF	REF	REF	REF	-		97E0869	PHOTOMASTER	
				REF	REF	REF	REF	-		97E0870	SOLDER MASK	
				REF	REF	REF	REF	-		97E0871	SILKSCREEN	
				1	1	1	1	1		40D0560-000	PW BOARD	
				4	-	4	4	2		49A0000-000	INTEG CIRCUIT	
				-	4	-	-	3		49A0500-000		
				3	-	3	3	4		49A0002-000		
				-	3	-	-	5		49A0502-000		
				3	-	2	2	6		49A0012-000		
				-	2	-	-	7		49A0512-000		
				2	-	1	1	8		49A0022-000		
				-	1	-	-	9		49A0522-000	INTEG CIRCUIT	

NEXT ASSY 01P1563				MODEL NO. 620, V73				APPD <i>T.C.H. 6-13-93</i>			
REV	X	X1	A	B	C	D					
IN NO.			921235	92241	92292	92354					
DATE	5/11/73	5/31/73	5/31/73	5/31/73	5/31/73	5/31/73					
DR	<i>Q.S.</i>	<i>JK</i>	<i>JK</i>	<i>JK</i>	<i>JK</i>	<i>JK</i>					
CHK											

TITLE: PARTS LIST	
BUFFER INTERLACE	
CONT DM402	
DWG NO.	44P0689
REV	<i>P</i>
CHEK	<i>1</i> OF <i>5</i>

44A0017-0000

QUANTITY REQ'D PER DASH NO.				PARTS LIST			CODE IDENT: 21101				
				003	002	001	000	FIND NO.	PART NUMBER	DESCRIPTION	REMARKS
				5	-	5	5	10	49A0023-000	INTEG CIRCUIT	
				-	5	-	-	11	49A0523-000		
				1	-	1	1	12	49A0039-000		
				-	1	-	-	13	49A0539-000		
				5	-	5	5	14	49A0040-000		
				-	5	-	-	15	49A0540-000		
				4	-	4	4	16	49A0042-000		
				-	4	-	-	17	49A0542-000		
				1	-	1	1	18	49A0082-001		
				-	1	-	-	19	49A0082-000		
				3	-	3	3	20	49A0093-001		
				-	3	-	-	21	49A0093-000		
				1	-	1	1	22	49A0094-001		
				-	1	-	-	23	49A0094-000		
				4	-	4	4	24	49A0104-000		
				-	4	-	-	25	49A0104-001	INTEG CIRCUIT	

NOTES:

DWG NO.
44P0689

SHEET 3 OF 5

45A0017-001C

QUANTITY REQ'D PER DASH NO.								PARTS LIST			CODE IDENT: 21101
				003	002	001	000	IND NO.	PART NUMBER	DESCRIPTION	REMARKS
				4	-	4	4	26	49A0127-000	INTEG CIRCUIT	
				-	4	-	-	27	49A0127-001	↑ ↓	
				9	-	7	7	28	49A0128-001		
				-	7	-	-	29	49A0128-003		
				1	-	-	-	30	49A0178-000		
				1	-	1	1	31	49A0554-001		
				-	1	-	-	32	49A0554-000		INTEG CIRCUIT
				6	4	4	4	33	65N2500-102	RESISTOR, 1K, 1/4W, ±5%	R1-3, 11, 13, 14 (R13, 14, USED ON -003 ONLY)
				8	8	8	8	34	65N5000-151	RESISTOR, 150Ω, 1/2W, ±5%	R4-10, 12
				18	18	18	18	35	71A0004-100	CAPACITOR, .1μf	C1, 3, 4, 6, 7, 8, 10, 12, 13, 14, 16, 17, 19, 20, 21, 22, 24, 25
				9	9	9	9	36	71A0200-475	CAPACITOR, 4.7μf, 20V	C2, 5, 9, 11, 15, 18, 23, 26, 27
				14	14	14	14	37	53C0194-000	BUS BAR	

440017-001C

NOTES:

DWG NO.
44PO689
SHEET 4 OF 5

QUANTITY REQ'D PER DASH NO.								PARTS LIST			CODE IDENT: 21101
				003	002	001	000	FIND NO.	PART NUMBER	DESCRIPTION	REMARKS
				-	0	0	-	38	90A0011-000	HUMISEAL	
				1	1	1	1	39	65N2500-511	RESISTOR, 510Ω, 1/4 W, ±5%	R15
				0	0	0	0	40	53A0003-001	WIRE, JUMPER	30 AWG
				0	0	0	0	41	54A0001-124	SLEEVING	
				1	1	1	1	42	65N5000-821	RES 820Ω-1/2W±5%	R16
				0	0	0	0	43	53A0701-000	WIRE, JUMPER, GRN	30 AWG
				1	1	1	1	44	86C0054-000	INFORMATION STICKER	

NOTES:

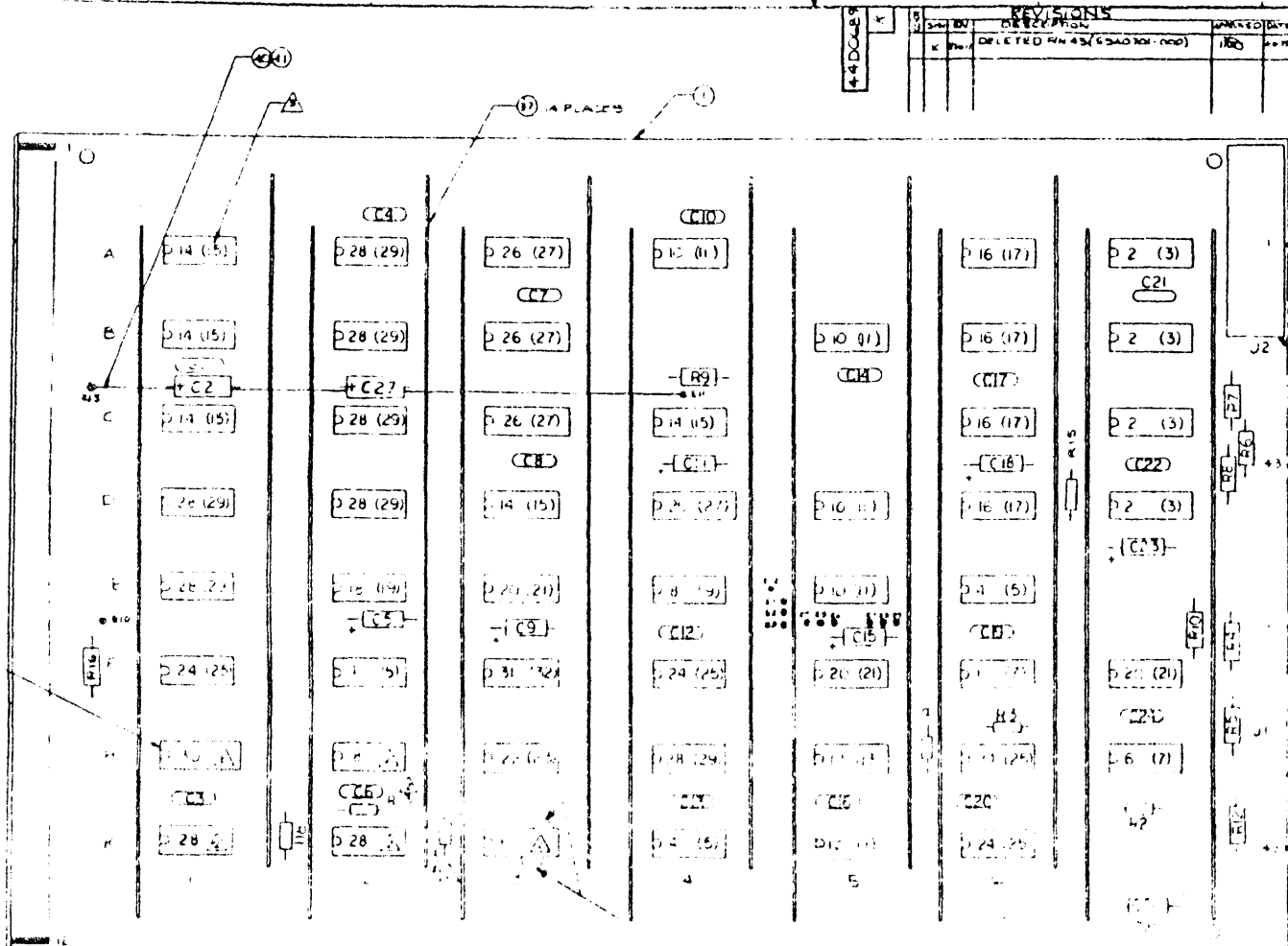
DWG NO.
44P0689

SHEET 3 OF 5

9640017-001C



REVISIONS			DATE		INITIALS	
NO.	BY	DESCRIPTION	APPROVED	DATE	BY	DATE
1	...	DELETED PIN 44 (CONNECTION...)	...	1/60
2
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LOCATE APPROX. WHERE SHOWN

PART NUMBER CHART	
PART NO.	TITLE
44D067350	FAULTY (PLASTIC CASE)
44D068001	MISCELLANEOUS
44D068002	MISCELLANEOUS
44D068003	MISCELLANEOUS
44D068004	MISCELLANEOUS
44D068005	MISCELLANEOUS
44D068006	MISCELLANEOUS
44D068007	MISCELLANEOUS
44D068008	MISCELLANEOUS
44D068009	MISCELLANEOUS
44D068010	MISCELLANEOUS
44D068011	MISCELLANEOUS
44D068012	MISCELLANEOUS
44D068013	MISCELLANEOUS
44D068014	MISCELLANEOUS
44D068015	MISCELLANEOUS
44D068016	MISCELLANEOUS
44D068017	MISCELLANEOUS
44D068018	MISCELLANEOUS
44D068019	MISCELLANEOUS
44D068020	MISCELLANEOUS
44D068021	MISCELLANEOUS
44D068022	MISCELLANEOUS
44D068023	MISCELLANEOUS
44D068024	MISCELLANEOUS
44D068025	MISCELLANEOUS
44D068026	MISCELLANEOUS
44D068027	MISCELLANEOUS
44D068028	MISCELLANEOUS
44D068029	MISCELLANEOUS
44D068030	MISCELLANEOUS
44D068031	MISCELLANEOUS
44D068032	MISCELLANEOUS
44D068033	MISCELLANEOUS
44D068034	MISCELLANEOUS
44D068035	MISCELLANEOUS
44D068036	MISCELLANEOUS
44D068037	MISCELLANEOUS
44D068038	MISCELLANEOUS
44D068039	MISCELLANEOUS
44D068040	MISCELLANEOUS
44D068041	MISCELLANEOUS
44D068042	MISCELLANEOUS
44D068043	MISCELLANEOUS
44D068044	MISCELLANEOUS
44D068045	MISCELLANEOUS
44D068046	MISCELLANEOUS
44D068047	MISCELLANEOUS
44D068048	MISCELLANEOUS
44D068049	MISCELLANEOUS
44D068050	MISCELLANEOUS
44D068051	MISCELLANEOUS
44D068052	MISCELLANEOUS
44D068053	MISCELLANEOUS
44D068054	MISCELLANEOUS
44D068055	MISCELLANEOUS
44D068056	MISCELLANEOUS
44D068057	MISCELLANEOUS
44D068058	MISCELLANEOUS
44D068059	MISCELLANEOUS
44D068060	MISCELLANEOUS
44D068061	MISCELLANEOUS
44D068062	MISCELLANEOUS
44D068063	MISCELLANEOUS
44D068064	MISCELLANEOUS
44D068065	MISCELLANEOUS
44D068066	MISCELLANEOUS
44D068067	MISCELLANEOUS
44D068068	MISCELLANEOUS
44D068069	MISCELLANEOUS
44D068070	MISCELLANEOUS
44D068071	MISCELLANEOUS
44D068072	MISCELLANEOUS
44D068073	MISCELLANEOUS
44D068074	MISCELLANEOUS
44D068075	MISCELLANEOUS
44D068076	MISCELLANEOUS
44D068077	MISCELLANEOUS
44D068078	MISCELLANEOUS
44D068079	MISCELLANEOUS
44D068080	MISCELLANEOUS
44D068081	MISCELLANEOUS
44D068082	MISCELLANEOUS
44D068083	MISCELLANEOUS
44D068084	MISCELLANEOUS
44D068085	MISCELLANEOUS
44D068086	MISCELLANEOUS
44D068087	MISCELLANEOUS
44D068088	MISCELLANEOUS
44D068089	MISCELLANEOUS
44D068090	MISCELLANEOUS
44D068091	MISCELLANEOUS
44D068092	MISCELLANEOUS
44D068093	MISCELLANEOUS
44D068094	MISCELLANEOUS
44D068095	MISCELLANEOUS
44D068096	MISCELLANEOUS
44D068097	MISCELLANEOUS
44D068098	MISCELLANEOUS
44D068099	MISCELLANEOUS
44D068100	MISCELLANEOUS

FOR PARTS LIST SEE 44D0689

INSTALLER MUST... AFTER FINAL TEST AND PRIOR TO ACCEPTANCE TEST... REVISIONS IN PARTS LIST ARE USED ON -002 ONLY... MAKE A CORRECT COPY OF THIS DRAWING AND REVISIONS... UNLESS OTHERWISE SPECIFIED

REVISIONS

44D0689

21101 D 44D0689 K

21101 D 44D0689 K

NOTES (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTORS ARE 1/4 W, 5%
2. THIS DRAWING CONSISTS OF THE FOLLOWING SHEETS: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R 16	
C 27	
E 13	

REFERENCE DRAWINGS	
BOARD DETAIL	40D0560
ARTWORK	97E0869
SOLDERMASK	97E0870
SILKSCREEN	97E0871
ASSEMBLY	44D0689


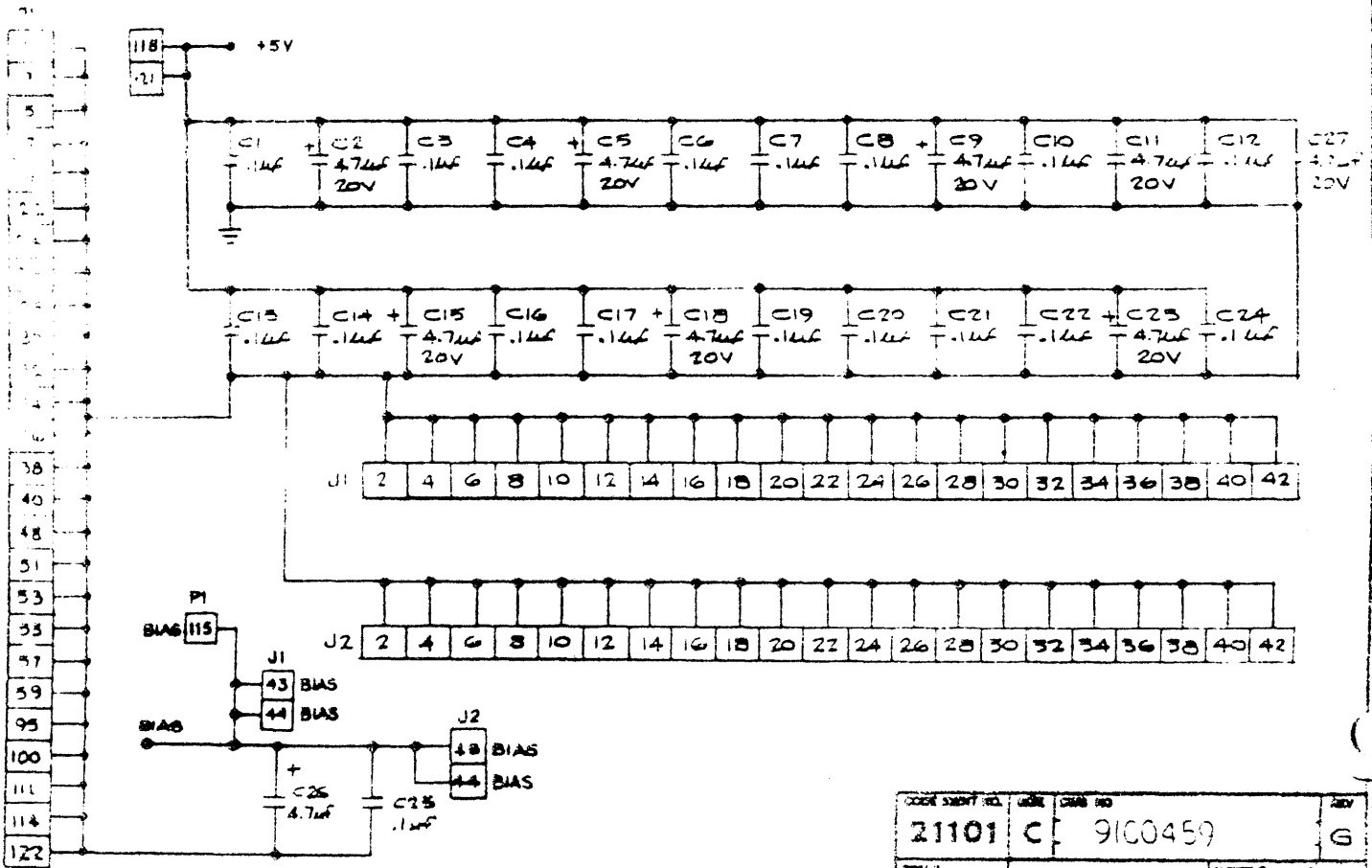
DRG. C. WARMER	5-29-73	 PAA PAPER & PENCILS 2700 Industrial Drive / Irvine, California 92714	TITLE		
CHK. R. J. ZOLL	5-27-73		LOGIC DIAGRAM-DM402		
DRGN. J. ZOLL	5-27-73	BUFFER INTERLACE CONTROLLER			
TRNG. J. E. ZOLL	6-21-73	CODE IDENT. NO.	SIZE	DRWG. NO.	REV.
APPD. J. E. ZOLL	6-21-73	21101	C	9100457	G
APPD.		SCALE			SHEET 1.00P
THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SERVICE, WITHOUT WRITTEN PERMISSION FROM PAA					

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REV. NO.		DESCRIPTION	APPROVED	DATE
A		PRODUCTION RELEASE PER EN 82183		12/1/83
B		REVISED PER EN 82554		1/1/84
C		ADDED C28 & C26 PER EN 82605		1/1/84
D		ADDED R16 - WAS N/U PER EN 82880		5/1/84
E		ADDED SERVICE ADDRESS CHECK AND NOTE'S 1, 2 & 3 TO SMT'S		4/1/84
F		RENAME WAS TO SIGNAL PCB X, THE IC AT C4 WAS 74H04		4/1/84
G		ADDED GND TO PINS P1-48, 100, 111 & 114 SMT 2 & 4, ADDED POWER AND GND DIST. FOR ICs TO SMT 2		9/1/84
H		SHLD ZONE C-3 IS MNT: 7404 15; 74H04		7/1/84
I		ADDED C27 AND B13		7/1/84

NOTE: POWER AND GROUND DISTRIBUTION
 FOR 6 PIN IC PIN 16 = +5V PIN 8 = GND EXCEPT AS LISTED BELOW
 FOR 4 PIN IC PIN 4 = +5V PIN 7 = GND EXCEPT AS LISTED BELOW
 EXCEPTIONS:
 IC AT P2, K4 AND E6 PIN 4 = +5 PIN 11 = GND
 IC AT A7, B7, C7 AND D7 PIN 5 = +5 PIN 12 = GND



D

C

B

A

J1		
1		
2	GND	2.0
3		
4	GND	2.0
5		
6	GND	2.0
7		
8	GND	2.0
9		
10	GND	2.0
11		
12	GND	2.0
13	TAKX-B	8.0
14	GND	2.0
15		
16	GND	2.0
17	TRØX-B	8.0
18	GND	2.0
19		
20	GND	2.0
21		
22	GND	2.0
23		
24	GND	2.0
25		
26	GND	2.0
27	DCEX-B	7.0
28	GND	2.0
29		
30	GND	2.0
31	BCDX-B	7.0
32	GND	2.0
33		
34	GND	2.0
35	CDCX-B	7.0
36	GND	2.0
37		
38	GND	2.0
39	DESX-B	8.0
40	GND	2.0
41		
42	GND	2.0
43	BIAS	7.0, 8.0
44	BIAS	7.0, 8.0

J2		
1		
2	GND	2.0
3		
4	GND	2.0
5		
6	GND	2.0
7		
8	GND	2.0
9		
10	GND	2.0
11		
12	GND	2.0
13	TAKX-B	8.0
14	GND	2.0
15		
16	GND	2.0
17	TRØX-B	8.0
18	GND	2.0
19		
20	GND	2.0
21		
22	GND	2.0
23		
24	GND	2.0
25		
26	GND	2.0
27	DCEX-B	7.0
28	GND	2.0
29		
30	GND	2.0
31	BCDX-B	7.0
32	GND	2.0
33		
34	GND	2.0
35	CDCX-B	7.0
36	GND	2.0
37		
38	GND	2.0
39	DESX-B	8.0
40	GND	2.0
41		
42	GND	2.0
43	BIAS	7.0, 8.0
44	BIAS	7.0, 8.0

4

3

2

1

D

C

B

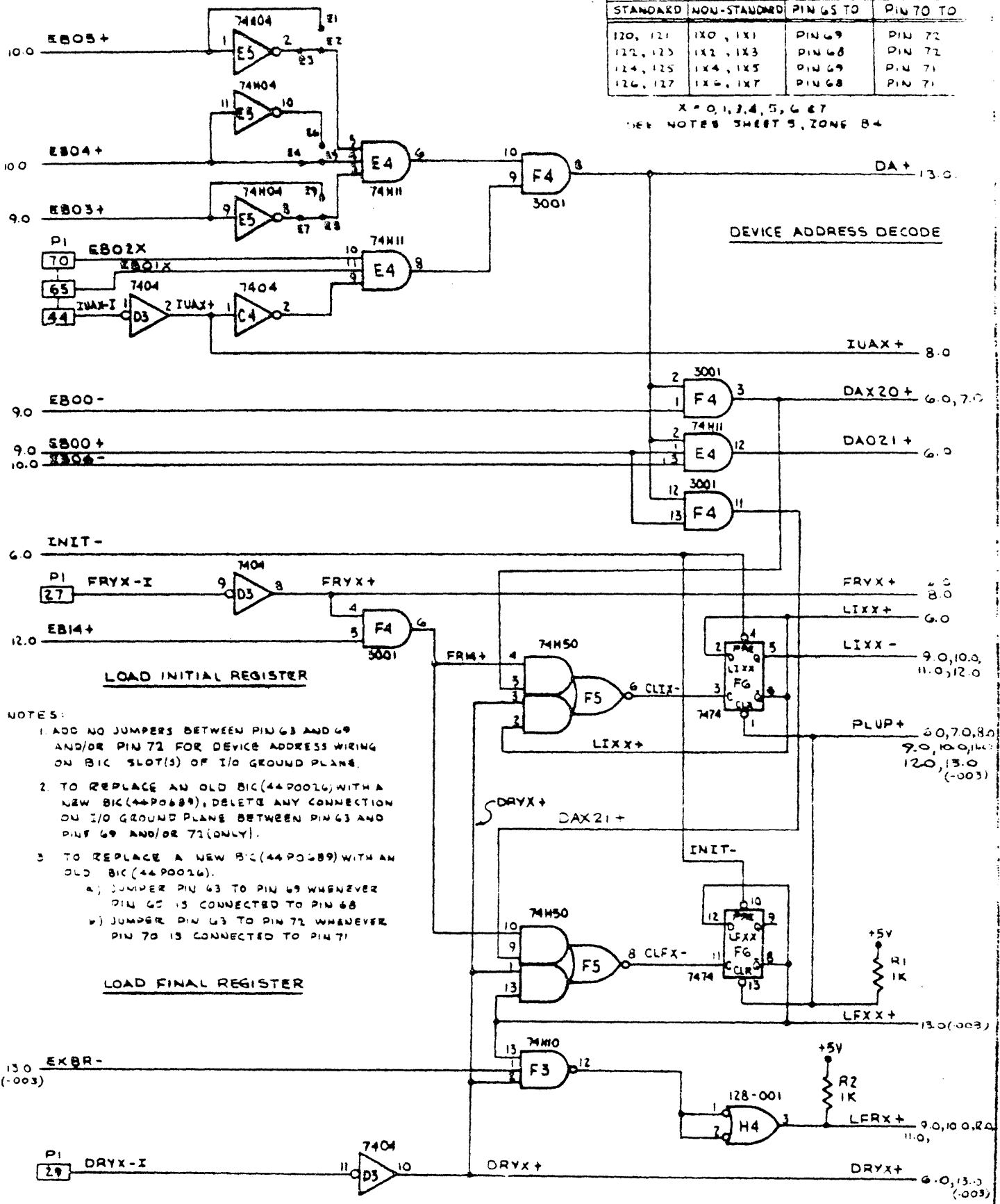
A

1	GND	2.0	42	PRNX-I	8.0	84	
2	EBOO-I	9.0	43	SVRT-I	6.0	85	
3	GND	2.0	44	IUAX-I	5.0	86	
4	EBOI-I	9.0	45	IUCX-I	7.0	87	
5	GND	2.0	46			88	
6	EBOZ-I	9.0	47			89	
7	GND	2.0	48	GND	2.0	90	
8	EBOB-I	9.0	49	TRQX-B	8.0	91	
9	GND	2.0	50	TRQX-B	8.0	92	
10	EBO4-I	10.0	51	GND	2.0	93	BIMES-I 13.0
11	EBO5-I	10.0	52	BCDX-B	7.0	94	
12	EBO6-I	10.0	53	GND	2.0	95	GND 2.0
13	EBO7-I	10.0	54	CDCX-B	7.0	96	
14	EBO8-I	11.0	55	GND	2.0	97	
15	EBO9-I	11.0	56	DCEX-B	7.0	98	
16	EB10-I	11.0	57	GND	2.0	99	
17	EB11-I	11.0	58	TAKX-B	8.0	100	GND 2.0
18	EB12-I	12.0	59	GND	7.0	101	
19	EB13-I	12.0	60	DEBX-B	8.0	102	
20	EB14-I	12.0	61			103	
21	EB15-I	12.0	62			104	
22	GND	2.0	63			105	
23			64			106	
24	GND	2.0	65	EBOIX	5.0	107	
25			66			108	
26	GND	2.0	67			109	IOK1-I 13.0
27	FRYX-I	5.0	68	EBO1+	9.0	110	IOK2-I 13.0
28	GLT1	2.0	69	EBO1-	9.0	111	GND 2.0
29	DRYX-I	5.0	70	EBO2X	5.0	112	IOK3-I 13.0
30	GND	2.0	71	EBO2+	9.0	113	IOK4-I 13.0
31	SERX-I	6.0	72	EBO2-	9.0	114	GND 2.0
32	GND	2.0	73	PRMY-I	8.0	115	BIAS 7.0,80
33	TPIX-I	8.0	74			116	
34	GND	2.0	75	INTX-	8.0	117	
35	TPOX-I	8.0	76			118	+5V 2.0
36	GND	2.0	77			119	
37	PRMX-I	8.0	78			120	
38	GND	2.0	79			121	+5V 2.0
39			80			122	GND 2.0
40	GND	2.0	81				
41			82				
			83				

CORE IDENT NO.	SIZE	DATE NO.	REV
21101	C	91C0459	16
TITLE			SHEET 4 OF

DEVICE ADDRESS (OCTAL)		ADD JUMPER FROM	
STANDARD	NON-STANDARD	PIN 69 TO	PIN 70 TO
120, 121	1X0, 1X1	PIN 69	PIN 72
122, 123	1X2, 1X3	PIN 68	PIN 72
124, 125	1X4, 1X5	PIN 69	PIN 71
126, 127	1X6, 1X7	PIN 68	PIN 71

X = 0, 1, 2, 4, 5, 6 & 7
SEE NOTES SHEET 5, ZONE B4



NOTES:

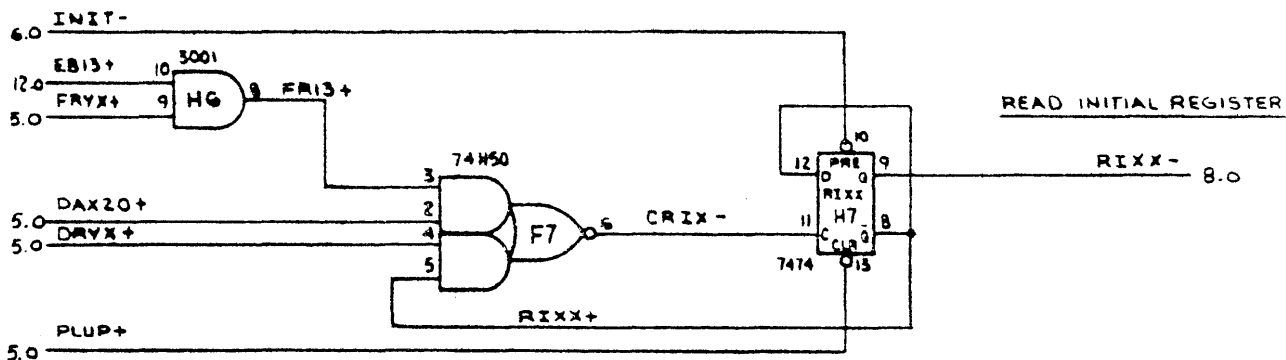
1. ADD NO JUMPERS BETWEEN PIN 63 AND 69 AND/OR PIN 72 FOR DEVICE ADDRESS WIRING ON BIC SLOT(S) OF I/O GROUND PLANE.
2. TO REPLACE AN OLD BIC (44P0026) WITH A NEW BIC (44P0689), DELETE ANY CONNECTION ON I/O GROUND PLANE BETWEEN PIN 63 AND PIN 69 AND/OR 72 (ONLY).
3. TO REPLACE A NEW BIC (44P0689) WITH AN OLD BIC (44P0026).
 - A) JUMPER PIN 63 TO PIN 69 WHENEVER PIN 65 IS CONNECTED TO PIN 68
 - B) JUMPER PIN 63 TO PIN 72 WHENEVER PIN 70 IS CONNECTED TO PIN 71

LOAD INITIAL REGISTER

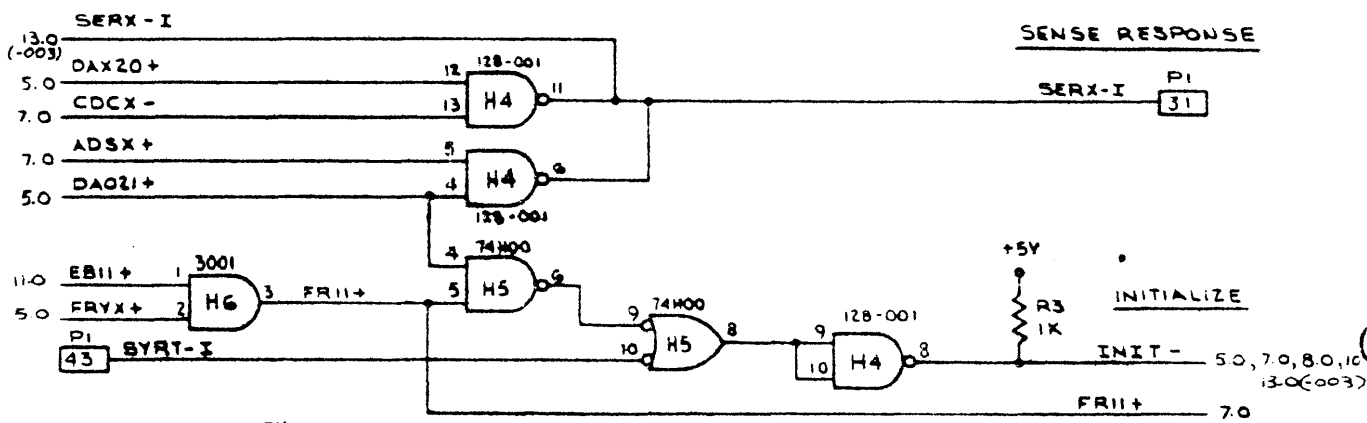
LOAD FINAL REGISTER

COCK PART NO.	REV.	DATE	REV.
21101	C	9100459	G
SCALE	SHEET 50 OF		

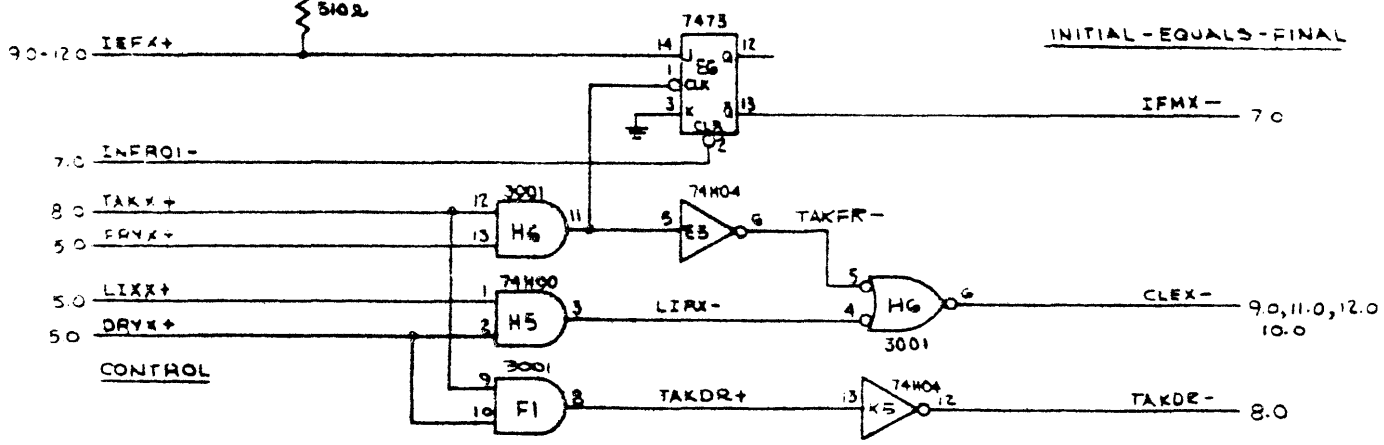
D



C



B



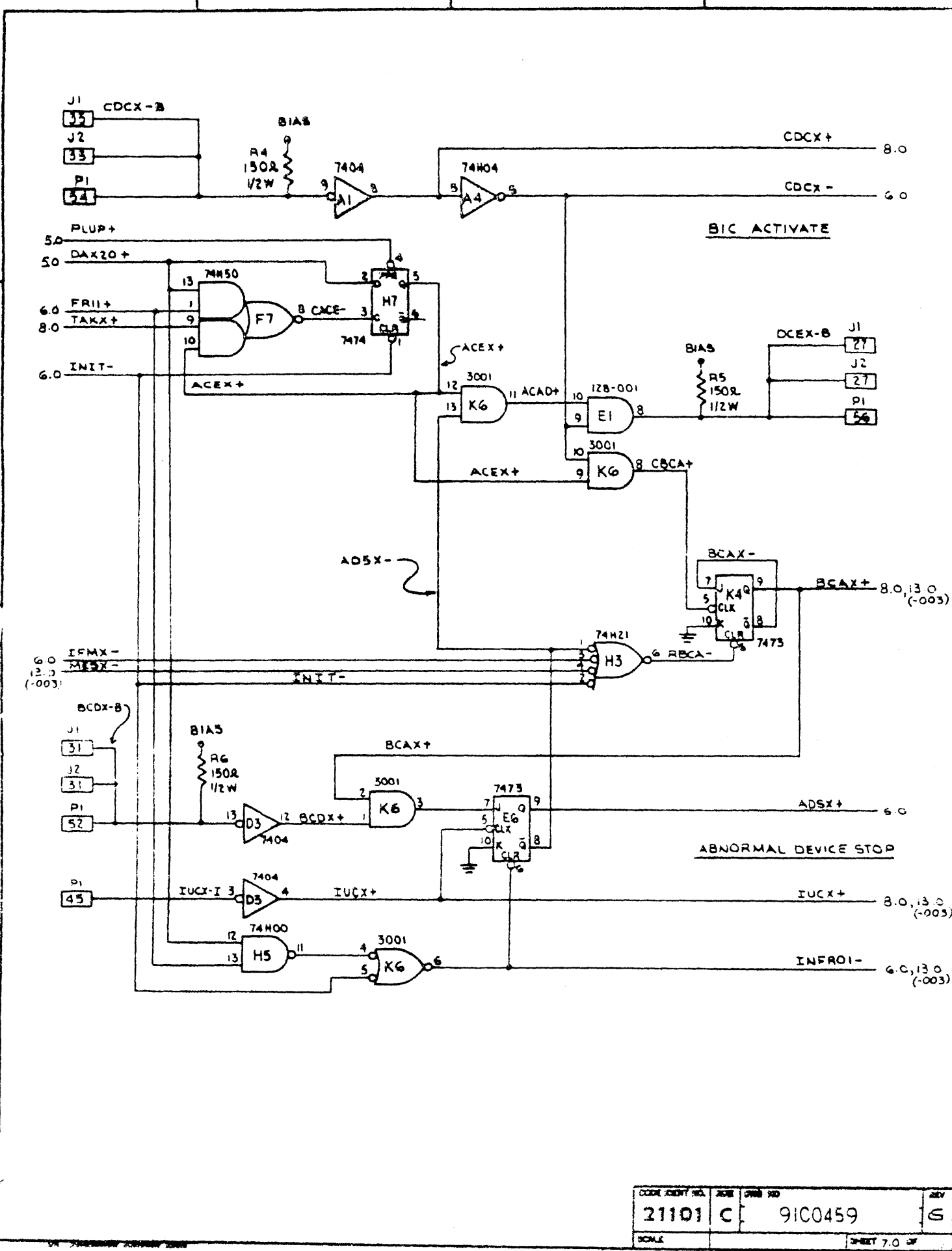
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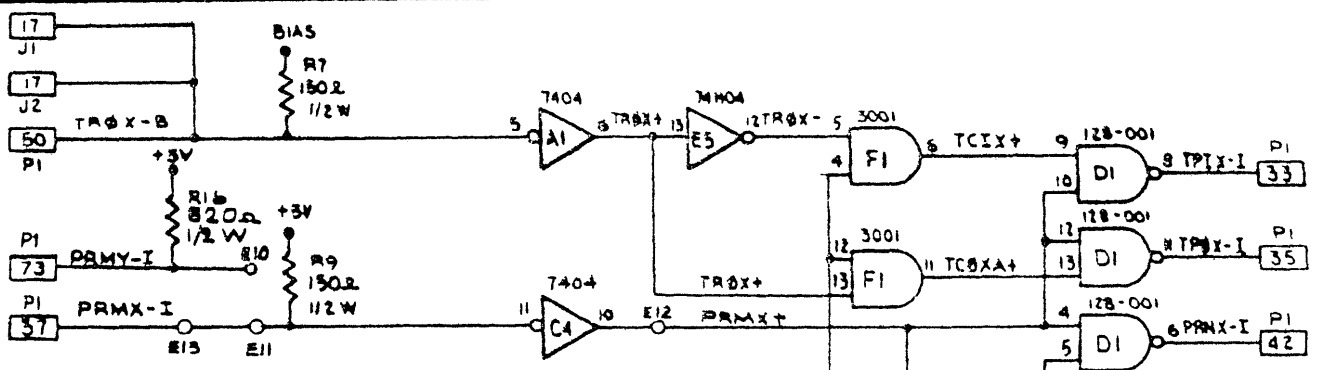
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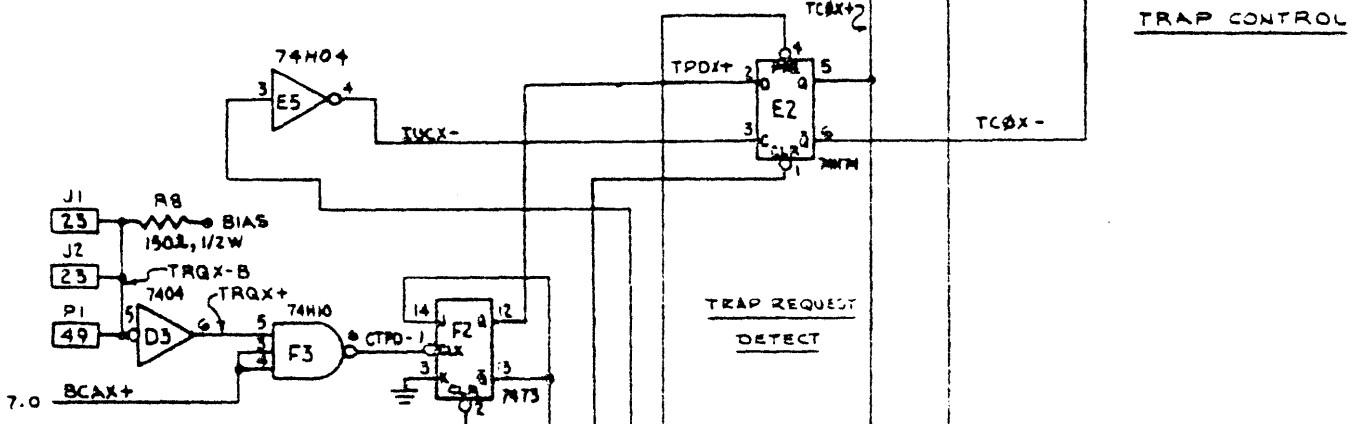


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21101	C	91C0459	S
SCALE	SHEET 7.0 OF		

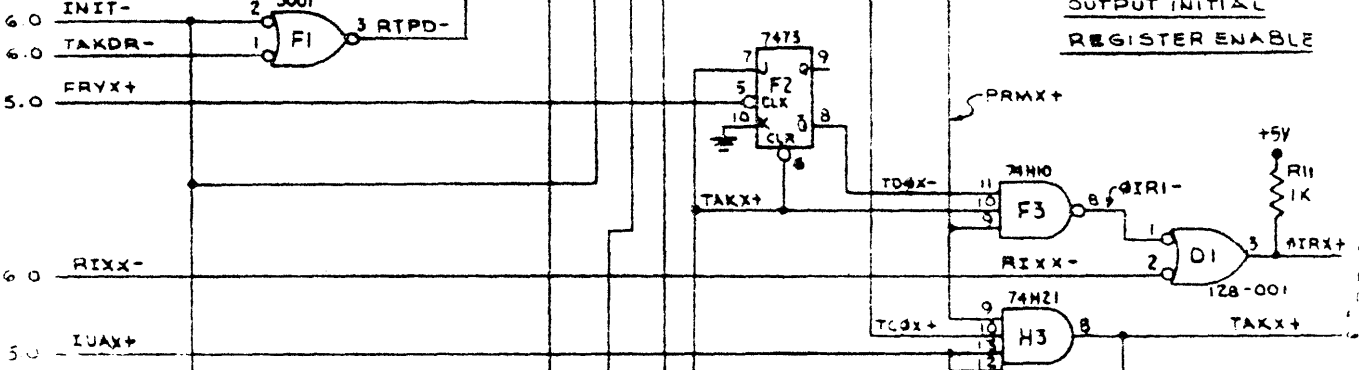
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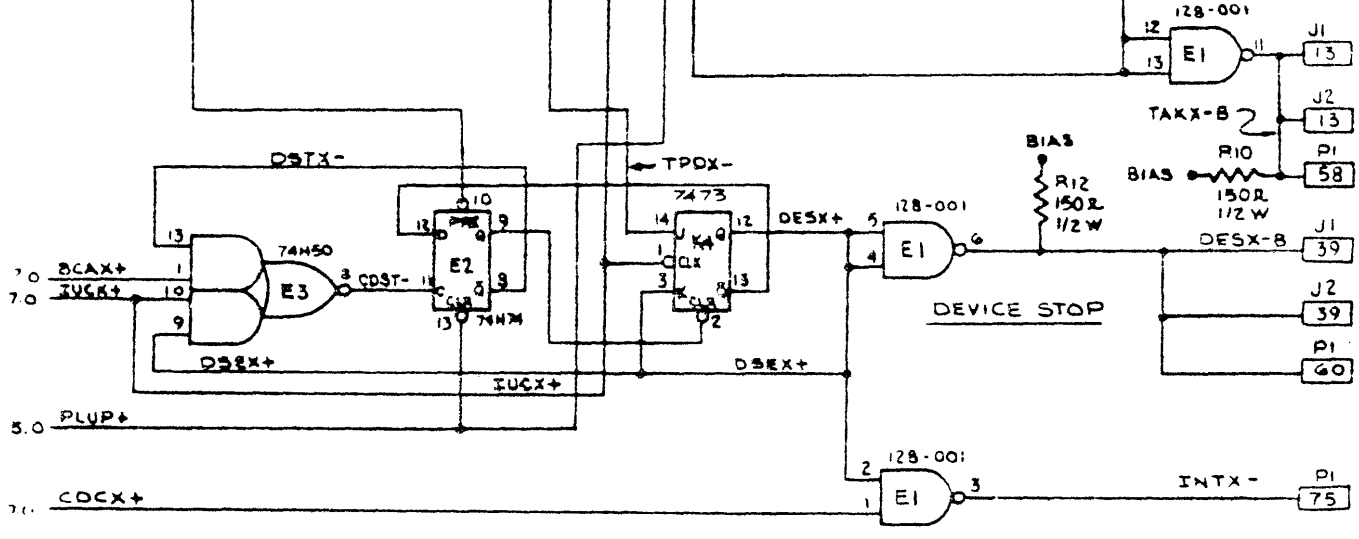
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A



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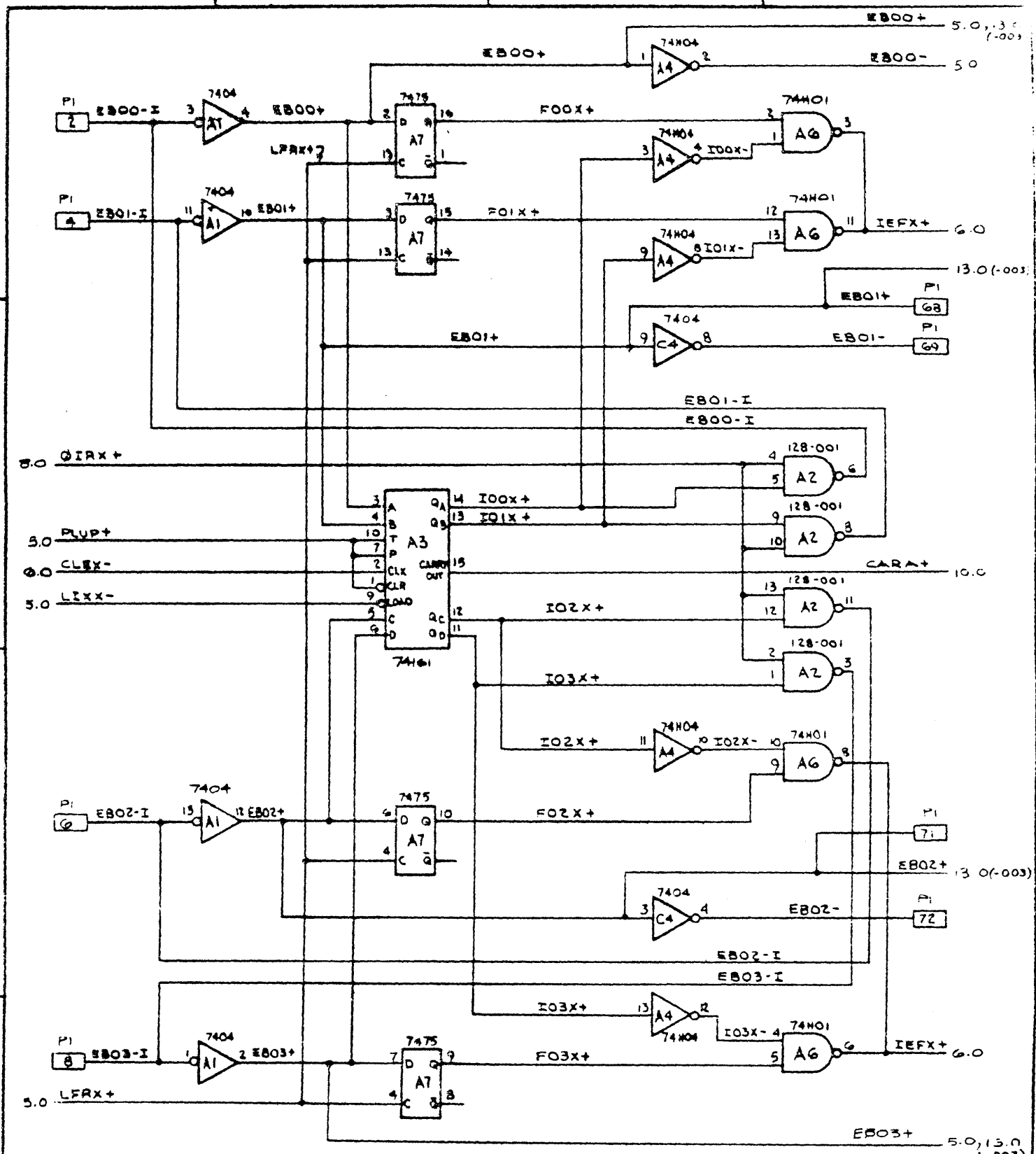
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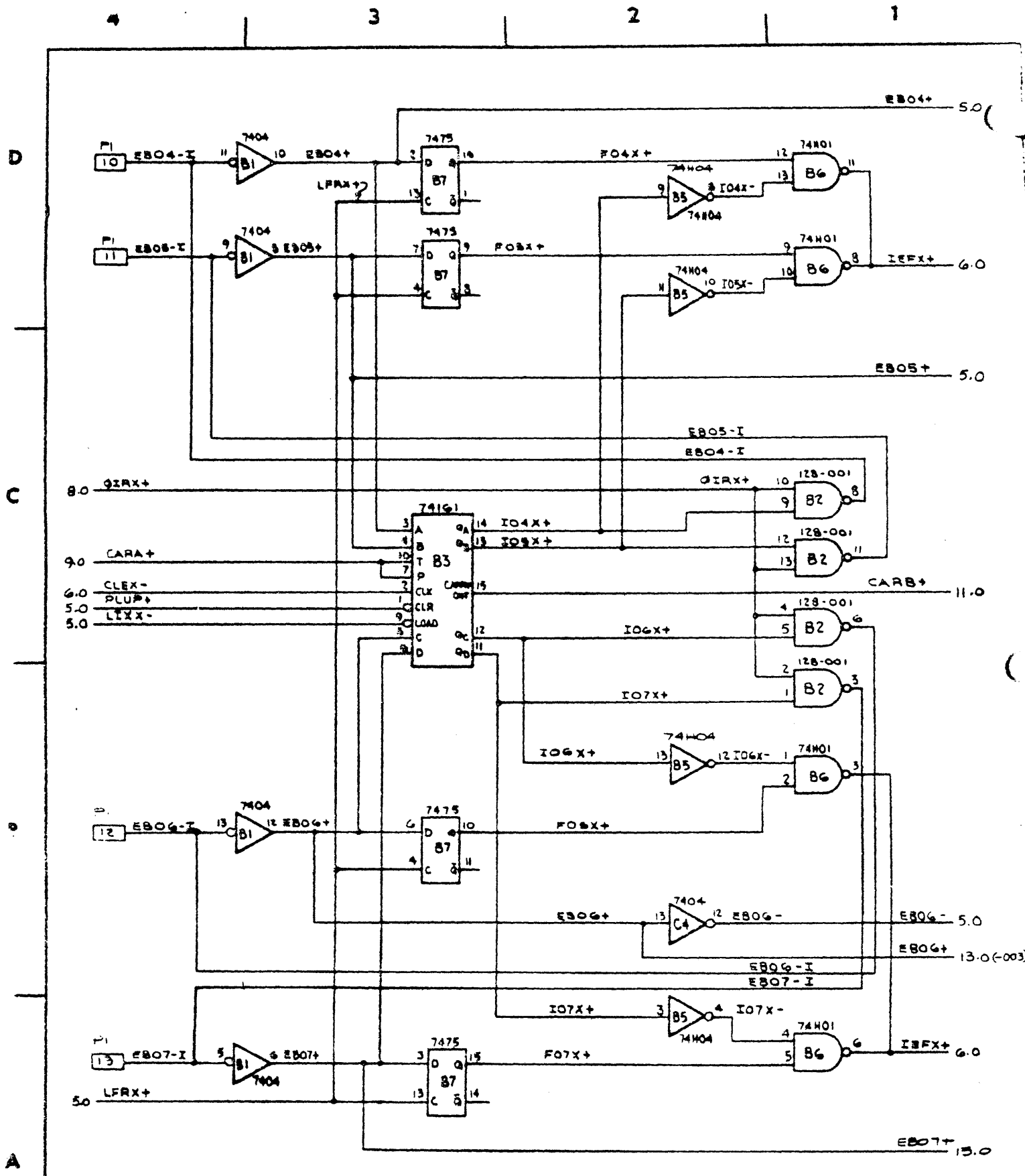
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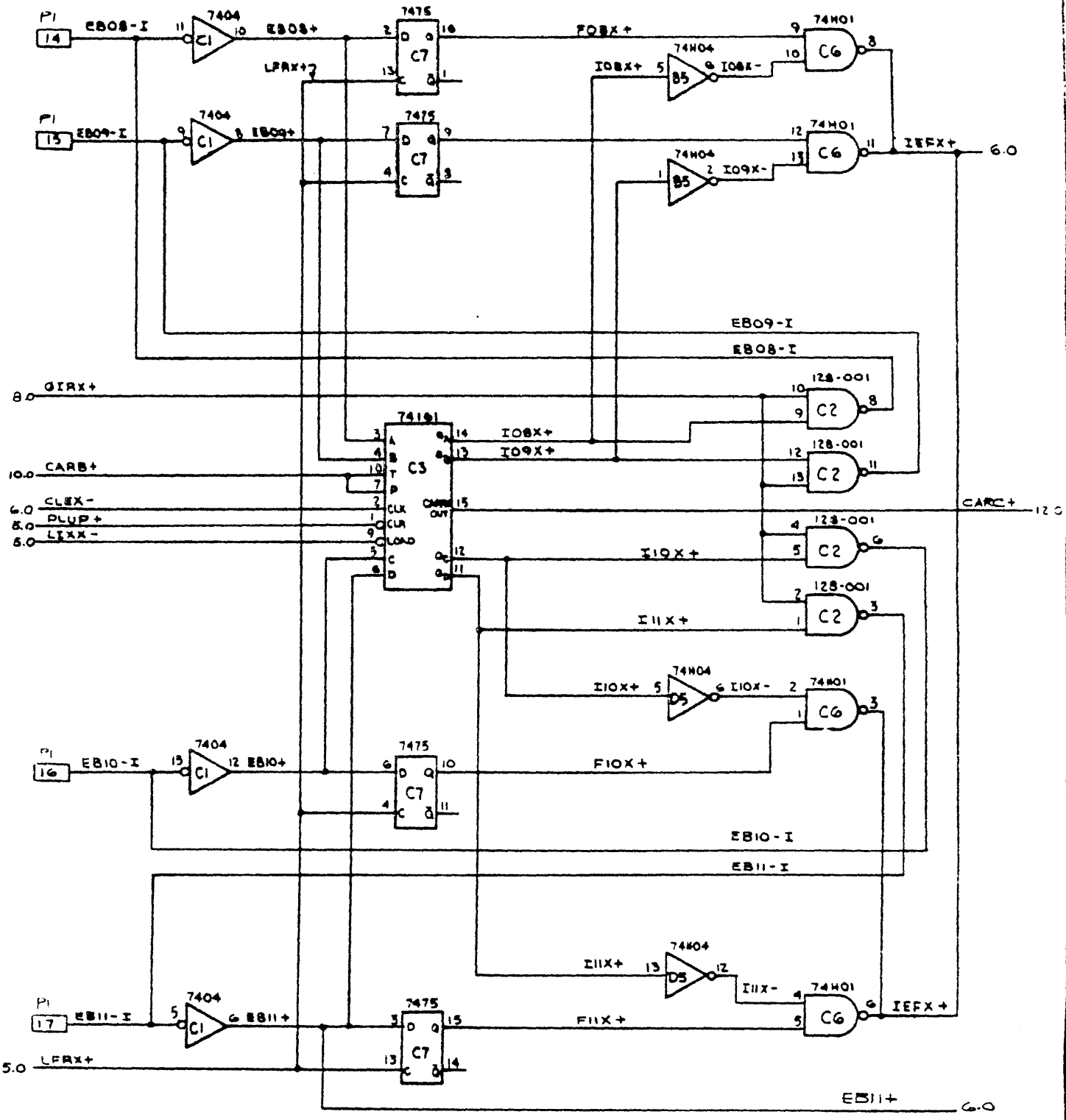
INITIAL/FINAL ADDRESS REGISTERS
BITS 0 - 3

CODE	IDENT	REV.	DATE	REV.
21101	C		9100459	G
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INITIAL/FINAL ADDRESS REGISTERS
BITS 4-7

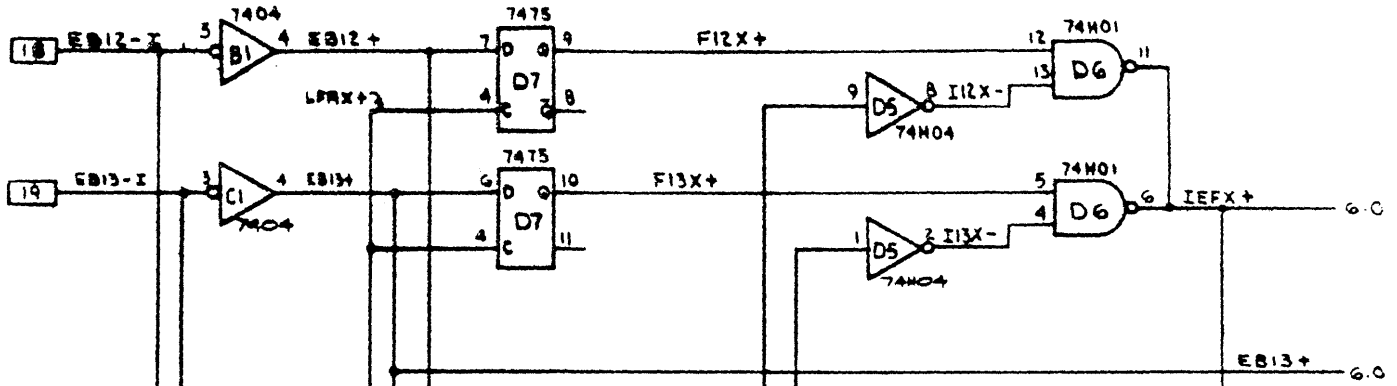
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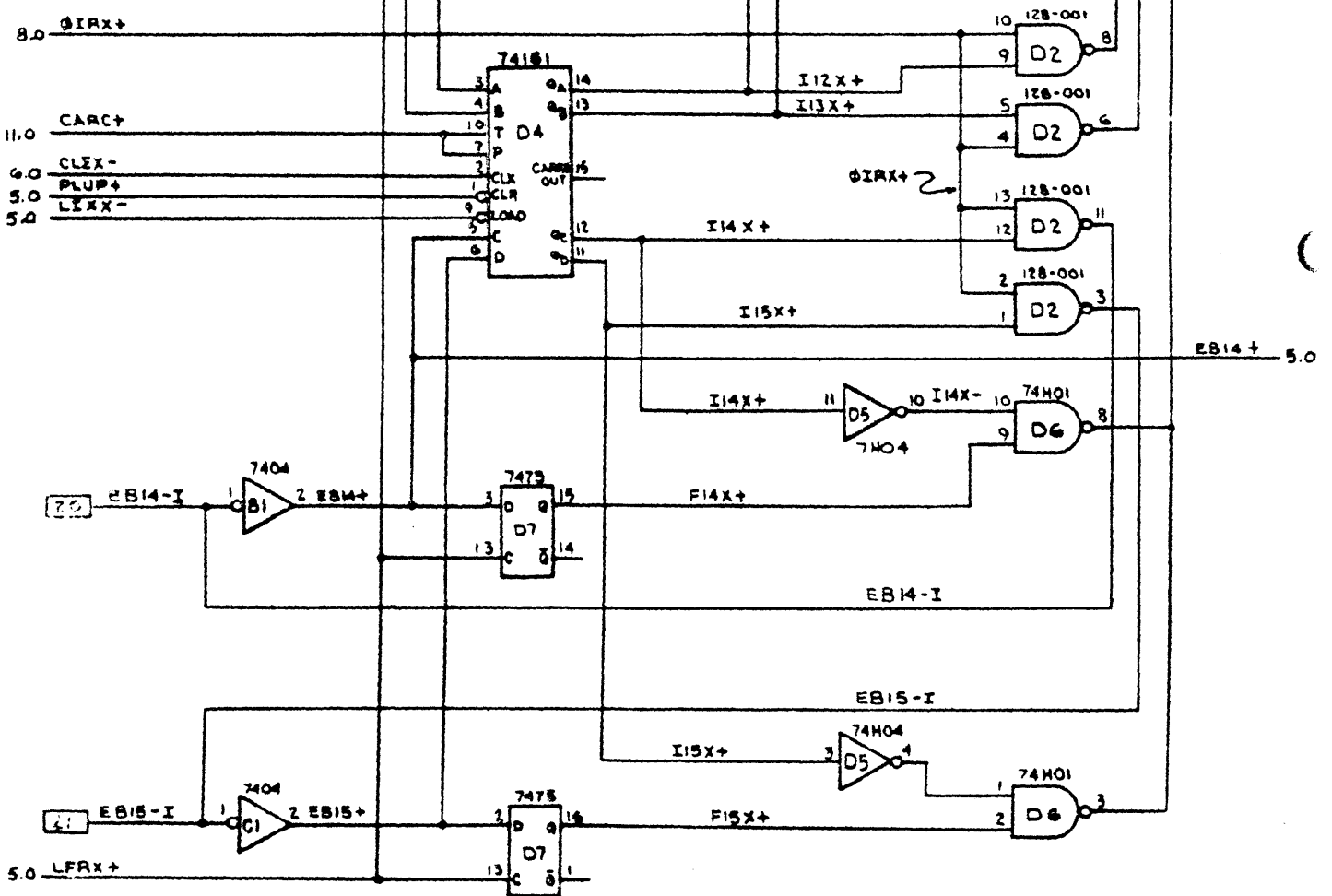
INITIAL/FINAL ADDRESS REGISTERS
BITS 8-11

LOGIC SYMBOL NO.	SIZE	DRWG NO.	REV.
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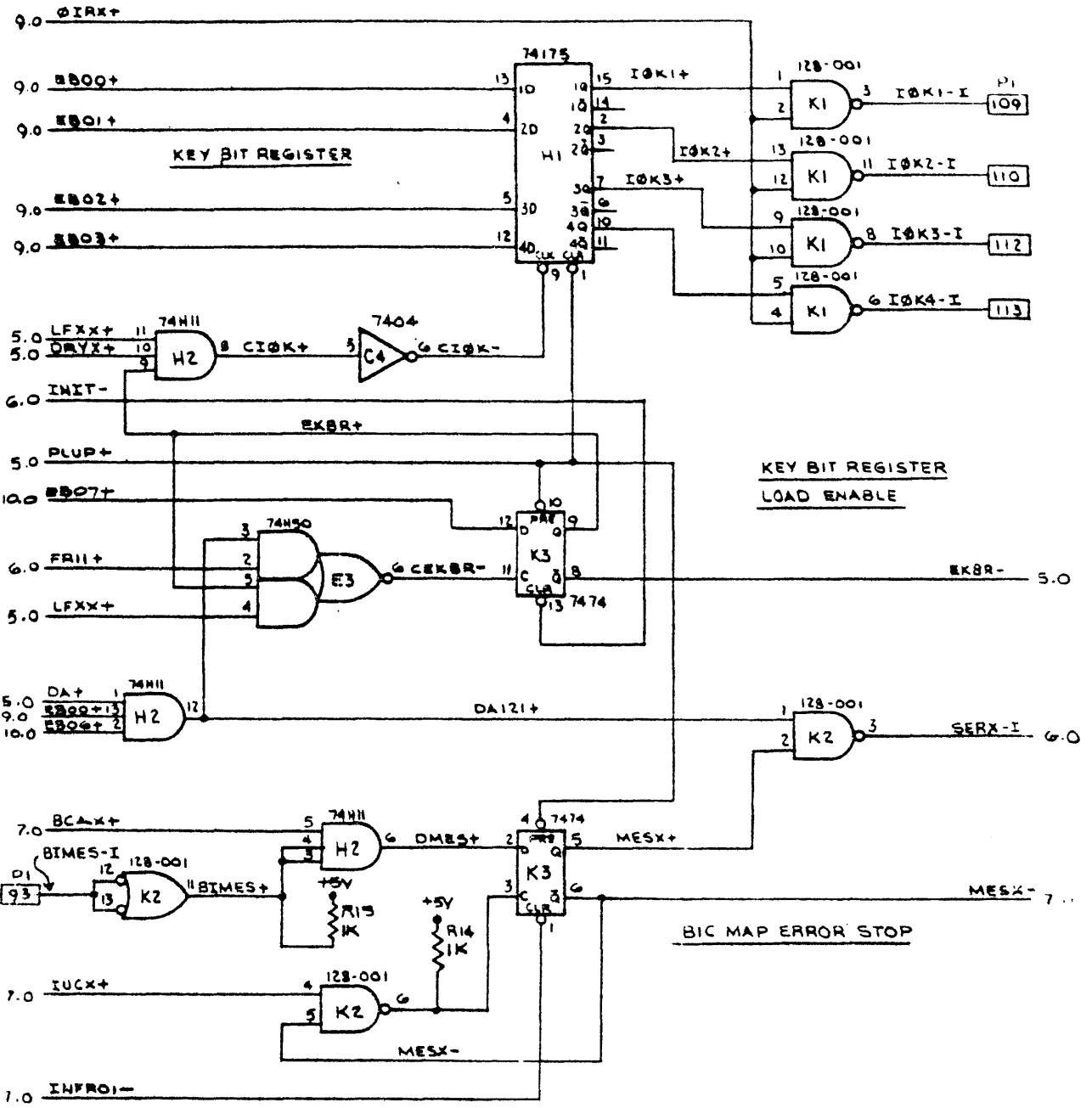


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INITIAL / FINAL ADDRESS REGISTERS
BITS 12 - 15

CODE IDENT NO.	REV	DATE	BY
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SCALE			SHEET 120 OF



-003 ONLY

CODE IDENT. NO.	SIZE	DATE NO.	REV.
21101	C	91C0459	G
SCALE	SHEET 13 OF		